

Notice of Allowability

Application No.

10/752,013

Applicant(s)

JIANG ET AL.

Examiner

Art Unit

Paul Ip

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the application filed on 1/7/04.
2. ☒ The allowed claim(s) is/are 1-11.
3. ☒ The drawings filed on 07 January 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

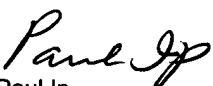
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Paul Ip
Primary Patent Examiner
TC 2800, AU 2837

REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance:

A careful consideration has taken to interpret claims 1-11 in light of the specification in view of figures 1 and 2 of the invention. The references of the record fail to teach or suggest the precise arrangement as recited in claims 1-11 of the invention.

Kardash (5,990,656) shows ZCP level detection circuit 130 for receiving terminal voltages of each of a plurality of phases of the brushless DC motor and a neutral voltage ct, a VCO 105, and a STATE CTR 120. Whereas, the claims require a ZCP level detection circuit 40, a pulse generator 42, a first false ZCP masking signal 44, and a state comparator 48 connected in the arrangement as shown in figure 2. In considering the elements with the functions, Kardash, either alone or taken with another patent, fails to teach or suggest the elements as recited in the claims.

Menegoli (5,866,998) shows in figures 2 and 3 circuits for improving back EMF detection in pulse width modulation mode including a ZERO CROSSING DETECTOR 16, a LOAD AND RESET PULSE GENERATOR, and a MASK COUNTER. Menegoli fails to teach or suggest the arrangement of the elements as recited in the claims of the invention. Furthermore, Menegoli shows in figures 2 and 3 the elements performing different functions teaching or suggesting away from the claims of the invention.

Rohrbaugh et al (5,481,167) disclose amplifier and method for detecting the BEMF of a coil of a polyphase sensorless DC motor including the circuit arrangement as shown in figure 1. Rohrbaugh et al's circuit arrangement is similar to Menegoli. Rohrbaugh et al fail to teach or suggest the circuit arrangement as recited in the claims of the invention.

Gee et al (4,743,815) disclose a brushless permanent magnet motor system including a MOTOR 11, a FILTER AND SCALE 19, ZERO CROSSING DETECTORS 21, INTERRUPT CONTROL LOGIC 23, and a MICROPROCESSOR 25. Consideration is made that Gee et al fail to teach or suggest the system arrangement as recited in claims 1-11 of the invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Customer Services Information

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Ip whose telephone number is (571)-272-1941. The examiner can normally be reached on Monday to Friday from 6:30 a.m. to 3:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin, can be reached on (571)-272-1207. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul Ip
Primary Examiner
Art Unit 2837